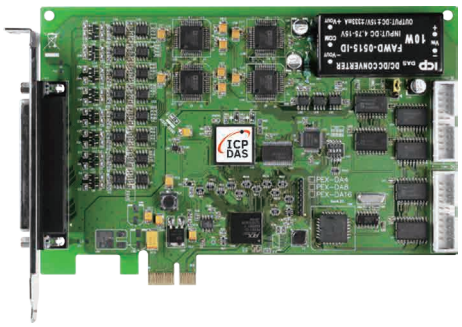


PEX-DA4/PEX-DA8/PEX-DA16

PCI Express, 4-ch, 14-bit AO Board

PCI Express, 8-ch, 14-bit AO Board

PCI Express, 16-ch, 14-bit AO Board

Introduction

The PEX-DA4/DA8/DA16 series Analog Output boards utilize the PCI Express interface, and are equipped with 4, 8, or 16 Analog Output channels at 14-bit resolution with each DA channel featuring a double-buffered latch.

The voltage output for the PEX-DA series can range from -10 V to +10 V, and the current output range can be from 0 to 20 mA. In addition, the PEX-DA series also provides the following advantages:

1. Accurate and easy-to-use calibration: ICP DAS provides a software calibration function, meaning that jumpers and trimpots are no longer required. The calibration data is saved in EEPROM for long-term use.

2. Individual channel configuration: Each channel can be individually configured as either voltage or current output.

3. Card ID: The PEX-DA series includes a Card ID switch that enables the board to be easily recognized via software if two or more cards are installed in the same computer.

The PEX-DA series is designed as an easy replacement for the PIO-DA series without requiring any modification to either the software or the driver.

Software

Drivers

- ☑ 32/64-bit Windows 10/11
- ☑ Linux

Sample Programs

- ☑ DOS Lib and TC/BC/MSC Demo
- ☑ VB/VC/Delphi/VB.NET/C#.NET/VC.NET/LabVIEW/Python/MATLAB

Applications

- High speed data acquisition system.
- Process monitor and control.
- Vibration analysis.
- Digital pattern generator from digital I/O port.

Features

- PCI Express x1 Interface
- 16-channel 5 V/TTL Digital Input
- 16-channel 5 V/TTL Digital Output
- Pull-high/Pull-low Jumpers for DI Channels
- Supports Card ID (SMD Switch)
- 4, 8 or 16-channel 14-bit Analog Output
- Voltage Output: ±10 V
- Current Output: 0 ~ +20 mA (sink)
- Double-buffered DA Latch

Hardware Specifications

Model	PEX-DA4	PEX-DA8	PEX-DA16
Hardware			
Card ID	Yes (4-bit)		
Connector	Female DB37 x 1 , 20-pin Box header x 2		
Analog Output			
Channels	4	8	16
Range	Voltage: ±10 V , Current: 0 ~ 20 mA		
Resolution	14-bit		
Accuracy	0.04% of FSR ±2 LSB @ 25 °C, ± 10 V		
Voltage Output Capability	±5 mA		
Response Time	166 kHz (Typical)		
Slew Rate	0.71 V/μs		
Operation Mode	Static Update		
Digital Input			
Channels	16		
Type	5 V/TTL		
ON Voltage Level	2.0 V Min.		
OFF Voltage Level	0.8 V Max.		
Response Speed	500 kHz (Typical)		
Trigger Mode	Static Update		
Digital Output			
Channels	16		
Type	5 V/CMOS		
Operation Mode	Static Update		
Voltage	Logic 0: 0.1 V Max. , Logic 1: 4.4 V Min.		
Max. Load Current	Sink: 6 mA @ 0.33 V Source: 6 mA @ 4.77 V		
Response Speed	500 kHz (Typical)		
Timer/Counter/Frequency			
Channels	3		
Type	5 V/TTL		
Resolution	16-bit		
Reference Clock	Internal: 4 MHz		
PC Bus			
Type	PCI Express x 1		
Data Bus	8-bit		
Power			
Consumption	750 mA@ +3.3 V 350 mA@ +12 V	750 mA@ +3.3 V 400 mA@ +12 V	750 mA@ +3.3 V 550 mA @ +12 V
Mechanical			
Dimensions (mm)	116.4 x 172.6 x 22 (W x L x D)		
Power			
Operating Temperature	0 ~ +60°C		
Storage Temperature	-20 ~ +70°C		
Humidity	5 ~ 85% RH, Non-condensing		

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Ordering Information

PEX-DA4 CR	PCI Express, 4-ch, 14-bit AO Board (RoHS) Includes one CA-4002 D-Sub connector
PEX-DA8 CR	PCI Express, 8-ch, 14-bit AO Board (RoHS) Includes one CA-4002 D-Sub connector
PEX-DA16 CR	PCI Express, 16-ch, 14-bit AO Board (RoHS) Includes one CA-4002 D-Sub connector

Pin Assignments

Pin Assignment	Terminal No.	Pin Assignment
VO_0	01	20 IO_0
VO_1	02	21 IO_1
VO_2	03	22 IO_2
VO_3	04	23 IO_3
A.GND	05	24 N/A
VO_4	06	25 IO_4
VO_5	07	26 IO_5
VO_6	08	27 IO_6
VO_7	09	28 IO_7
A.GND	10	29 N/A
VO_8	11	30 IO_8
VO_9	12	31 IO_9
VO_10	13	32 IO_10
VO_11	14	33 IO_11
A.GND	15	34 IO_12
VO_12	16	35 IO_13
VO_13	17	36 IO_14
VO_14	18	37 IO_15
VO_15	19	

CON3

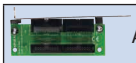
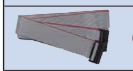
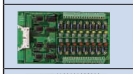
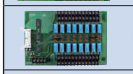
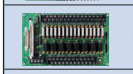
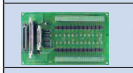
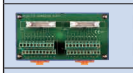
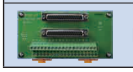
Pin Assignment	Terminal No.	Pin Assignment
DO 0	01 02	DO 1
DO 2	03 04	DO 3
DO 4	05 06	DO 5
DO 6	07 08	DO 7
DO 8	09 10	DO 9
DO 10	11 12	DO 11
DO 12	13 14	DO 13
DO 14	15 16	DO 15
GND	17 18	GND
+5 V	19 20	+12 V

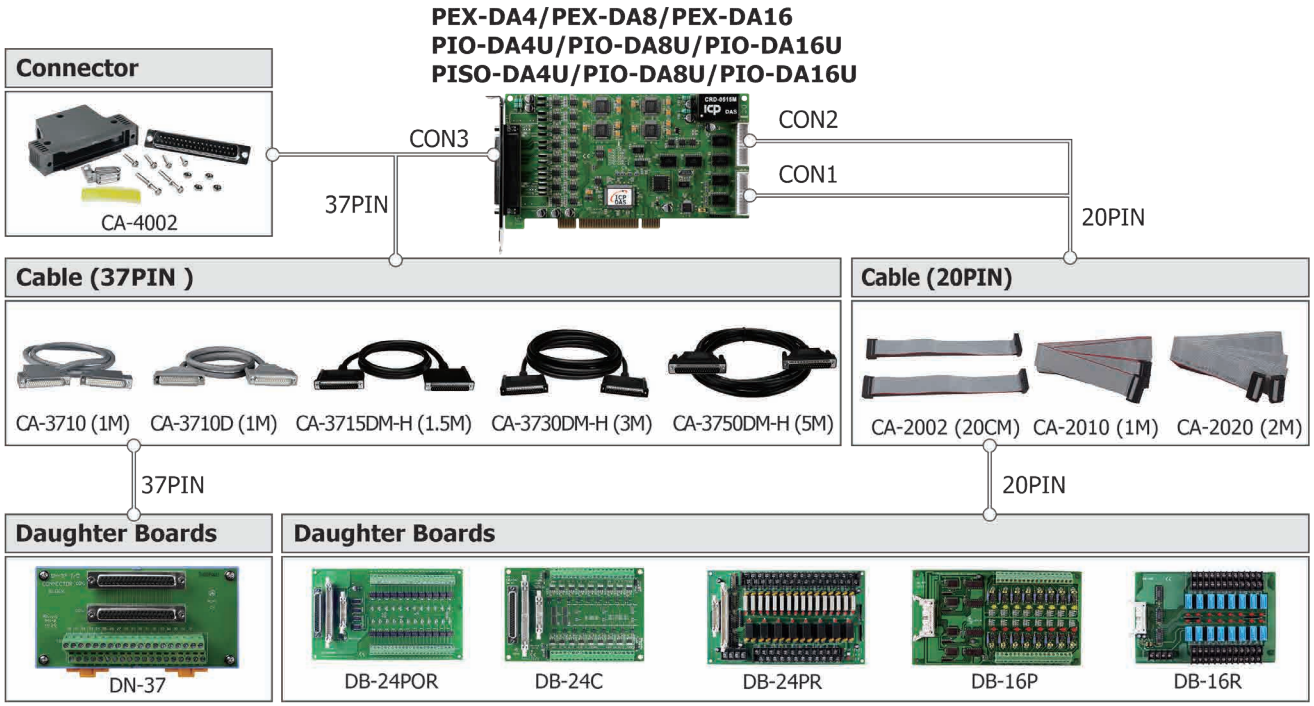
CON1

Pin Assignment	Terminal No.	Pin Assignment
DI 0	01 02	DI 1
DI 2	03 04	DI 3
DI 4	05 06	DI 5
DI 6	07 08	DI 7
DI 8	09 10	DI 9
DI 10	10 12	DI 11
DI 12	12 14	DI 13
DI 14	14 16	DI 15
GND	16 18	GND
+5 V	18 20	+12 V

CON2

Accessories

 ADP-20/PCI CR	Extender, Extended dual 20-pin flat-cable connector to PC slot window (RoHS)
 CA-2002 CR	20-pin flat cable, 20 cm x 2 (RoHS)
 CA-2010 CR	20-pin flat cable, 1 M (RoHS)
 CA-2020 CR	20-pin flat cable, 2 M (RoHS)
 CA-3710 CR	DB-37 Male-Male D-sub cable 1 M (Cable for Daughter Board (45°)) (RoHS)
 CA-3710D CR	DB-37 Male-Male D-sub cable 1 M (Cable for Daughter Board (180°)) (RoHS)
 CA-3715DM-H CR	DB-37 Male-Male Cable, 1.5 M, 180°. (RoHS) (RoHS)
 CA-3730DM-H CR	DB-37 Male-Male Cable, 3.0 M, 180°. (RoHS)
 CA-3750DM CR	DB-37 Male-Male Cable, 5.0 M, 180°. (RoHS)
 CA-3750DM-H CR	DB-37 Male-Male Cable, 5.0 M, 180°. (RoHS)
 DB-16P CR	16-channel Isolated Digital Input Daughter Board (RoHS)
 DB-16R CR	16-channel Relay Output Daughter Board (RoHS)
 DB-24PR CR	24-channel power relay board (RoHS)
 DB-24POR CR	24-channel Photo Mos relay output board (RoHS)
 DB-24C CR	24-channel open-collector output board (RoHS)
 DN-20 CR DN-20-381 CR	20-pin DIN-RAIL mounting I/O connector board (RoHS)
 DN-37 CR	DIN Rail Mounting 37-pin Connector (RoHS)



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